

ABSTRACT

A digital circuit for driving an audio transducer that provides consistent tonal quality over a range of volume levels, without requiring a variable gain analog amplifier.

A fixed amplitude ringer tone is multiplied, or amplitude modulated, by a higher frequency digital pulse train to produce a transducer driving signal. The timbre of the transducer driving signal is similar to that of the fixed amplitude ringer tone, but the volume of the sound produced by the transducer varies with the mark-space ratio of the pulse train.